

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	4
-------	---	----	---

Complete if Known

Application Number	09/678,266
Filing Date	10/03/2000
First Named Inventor	Ming Xi
Group Art Unit	1762 2827
Examiner Name	Unassigned ZARNEKE
Attorney Docket Number	4714P1/AMI-11

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
<i>OK</i>	AJ	4,058,430		Suntola et al.	11-15-1977	
<i>OK</i>	AK	4,389,973		Suntola et al.	06-28-1983	
<i>OK</i>	AL	4,413,022		Suntola et al.	11-01-1983	
<i>OK</i>	AM	4,767,494		Kobayashi et al.	08-30-1988	
<i>OK</i>	AN	4,806,321		Nishizawa et al.	02-21-1989	
<i>OK</i>	AO	4,840,921		Matsumoto	06-20-1989	
<i>OK</i>	AP	4,845,049		Sunakawa	07-04-1989	
<i>OK</i>	AQ	4,859,627		Sunakawa	08-22-1989	
<i>OK</i>	AR	4,861,417		Mochizuki et al.	08-29-1989	
<i>OK</i>	AS	4,876,218		Pessa et al.	10-24-1989	
<i>OK</i>	AT	4,993,357		Scholz	02-19-1991	
<i>OK</i>	AU	5,082,798		Arimoto	01-21-1992	
<i>OK</i>	AV	5,130,269		Kitahara et al.	07-14-1992	
<i>OK</i>	AW	5,166,092		Mochizuki et al.	11-24-1992	
<i>OK</i>	AX	5,225,366		Yoder	07-06-1993	
<i>OK</i>	AY	5,250,148		Nishizawa et al.	10-05-1993	
<i>OK</i>	AZ	5,256,244		Ackerman	10-26-1993	
<i>OK</i>	BA	5,270,247		Sakuma et al.	12-14-1993	
<i>OK</i>	BB	5,278,435		Van Hove et al.	01-11-1994	
<i>OK</i>	BC	5,281,274		Yoder	01-25-1994	

RECEIVED

DEC 04 2001

TC 1700

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 II possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Best Available Copy

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Sheet

[illegible]

Examiner Signature	<i>[Signature]</i>	Date Considered	8/6/2
-----------------------	--------------------	--------------------	-------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231

Under the Paper Production Act of 1995, no persons are required to

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	1	of	2
-------	---	----	---

Complete if Known

Application Number	09/678,266
--------------------	------------

Filing Date	10/3/2000
--------------------	-----------

First Named Inventor	Ming Xi
-----------------------------	---------

Group Art Unit	4702 2821
----------------	----------------------

Examiner Name	unassigned ZARNEK
---------------	--------------------------

Attorney Docket Number	4714P1/AMI-11
------------------------	---------------

[illegible][illegible]

Examiner Signature	<i>David H. Funch</i>	Date Considered	8/2
--------------------	-----------------------	-----------------	-----

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231 under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(use as many sheets as necessary)

Information	Case If Known
Application Number	09/678,266
Filing Date	10/3/2000
First Named Inventor	Ming Xi
Group Art Unit	1702 2822
Examiner Name	unassigned A. JARWINE
Attorney Docket Number	4714P1/AMI-11

[illegible]

8/6/2

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		Docket No. APPM/4714.P1	Serial No. 09/678,266
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)		Applicant Kori, et al.	Confirmation No. 4642
Examiner Zameke, D.		Filing Date 10/03/2000	Group 2827



U.S. Patent Documents

*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
OH	A1	2001/0042799 A1	11/22/2001	Kim, et al.	239	553	02/02/2001
	A2						
	A3						
	A4						
	A5						
	A6						
	A7						
	A8						
	A9						
	A10						
	A11						
	A12						

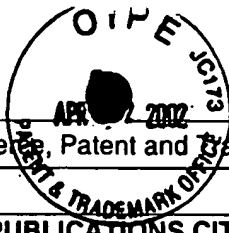
Foreign Patent Documents

*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B1						<input type="checkbox"/>	<input type="checkbox"/>
	B2						<input type="checkbox"/>	<input type="checkbox"/>

OTHER ART

*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.
OH	C1	"Cluster Tools for Fabrication of Advanced Devices" Jap. J of Applied Physics, Extended Abstracts 22 nd Conference Solid State Devices and Materials (1990), pp. 849- 852
OH	C2	Kitigawa, et al., "Hydrogen-mediated low temperature epitaxy of Si in plasma-enhanced chemical vapor deposition", Applied Surface Science (2000), pp. 30-34
OH	C3	Lee, et al., "Pulsed nucleation for ultra-high aspect ratio tungsten plugfill", Novellus Systems, Inc. (2001), pp. 1-2 (COPY NOT AVAILABLE TO APPLICANT AT THIS TIME)
Examiner		Date Considered 8/6/2

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		Docket No. AMAT/4714.P1	Serial No. 09/678,266
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT		Applicant Xi, et al.	
(Use several sheets if necessary)		Filing Date October 03, 2000	Group 1762 2825
Examiner Unknown			

U.S. Patent Documents

*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
DA	A1	4,486,487	12/04/84	Skarp	428	216	04/25/1983
DA	A2	4,829,022	05/09/89	Kobayashi et al.	437	107	12/09/1986
DA	A3	4,834,831	05/30/89	Nishizawa et al.	156	611	09/04/1987
DA	A4	4,838,983	06/13/89	Schumaker et al.	156	613	03/18/1988
DA	A5	4,838,993	06/13/89	Aoki et al.	156	643	12/03/1987
DA	A6	4,859,625	08/22/89	Nishizawa et al.	437	81	11/20/1987
DA	A7	4,927,670	05/22/1990	Erbil	427	255.3	06/22/1988
DA	A8	4,931,132	06/05/90	Aspnes et al.	156	601	10/07/1988
DA	A9	4,960,720	10/02/90	Shimbo	437	105	08/24/1987
DA	A10	4,975,252	12/04/90	Nishizawa et al.	422	245	05/26/1989
DA	A11	5,013,683	05/07/91	Petroff et al.	437	110	01/23/1989
DA	A12	5,085,885	02/04/92	Foley et al.	477	38	09/10/1990
DA	A13	5,091,320	02/25/92	Aspnes et al.	437	8	06/15/1990

Foreign Patent Documents

*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B1	01/66832 A2	09/13/2001	WO	C30B	16/44		X
DA	B2	01/40541 A1	06/07/2001	WO	C23C	16/40		X
DA	B3	01/36702 A1	05/25/2001	WO	C23C	16/00		X
DA	B4	01/29893 A1	04/26/2001	WO	H01L	21/768		X
DA	B5	01/29891 A1	04/26/2001	WO	H01L	21/768		X

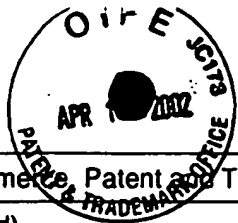
OTHER ART

*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.
DA	C1	Hultman, et al., "Review of the thermal and mechanical stability of TiN-based thin films", <i>Zeitschrift Fur Metallkunde</i> , 90(10) (Oct. 1999), pp. 803-813.
DA	C2	Klaus, et al., "Atomic Layer Deposition of SiO ₂ Using Catalyzed and Uncatalyzed Self-Limiting Surface Reactions", <i>Surface Review & Letters</i> , 6(3&4) (1999), pp. 465-448.

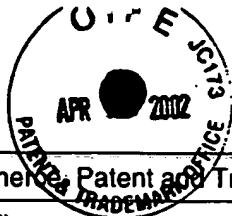
Examiner

Date Considered 8/6/2

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.




U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		Docket No. AMAT/4714.P1		Serial No. 09/678,266				
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.				
(Use several sheets if necessary)				Filing Date October 03, 2000				
Examiner Unknown				Group 1700				
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date if Appropriate	
DA	A14	5,246,536	09/21/93	Nishizawa et al.	156	610	03/10/1989	
DL	A15	5,254,207	10/19/93	Nishizawa et al.	156	601	11/30/1992	
DA	A16	5,296,403	03/22/94	Nishizawa et al.	437	133	10/23/1992	
DA	A17	5,311,055	05/10/94	Goodman et al.	257	593	11/22/1991	
DA	A18	5,316,615	05/31/94	Copel	117	95	03/09/1993	
DA	A19	5,348,911	09/20/94	Jurgensen et al.	117	91	04/26/1993	
DA	A20	5,374,570	12/20/94	Nasu et al.	437	40	08/19/1993	
DA	A21	5,438,952	08/08/1995	Otsuka	117	84	01/31/1994	
DA	A22	5,439,876	08/08/95	Graf et al.	505	447	08/16/1993	
DA	A23	5,441,703	08/15/95	Jurgensen	422	129	03/29/1994	
DA	A24	5,443,647	08/22/95	Aucoin et al.	118	723 ME	07/11/1994	
DA	A25	5,455,072	10/03/95	Bension et al.	427	255.7	11/18/1992	
DA	A26	5,469,806	11/28/95	Mochizuki et al.	117	97	08/20/1993	
DA	A27	5,503,875	04/02/96	Imai et al.	427	255.3	03/17/1994	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B6	01/29280-A1	04/26/2001	WO	C23C	16/32		X
DA	B7	01/27347-A1	04/19/2001	WO	C23C	16/44		X
DA	B8	01/27346-A1	04/19/2001	WO	C23C	16/44		X
DA	B9	01/15220-A1	03/01/2001	WO	H01L	21/768		X
OTHER ART								
*Examiner Initial	Including Author, Title, Date, Pertinent Pages, Etc.							
DA	C3	Yamaguchi, et al., "Atomic-layer chemical-vapor-deposition of silicon dioxide films with extremely low hydrogen content", Appl. Surf. Sci., Vol. 130-132 (1998), pp. 202-207.						
DA	C4	George et al., "Surface Chemistry for Atomic Layer Growth", J. Phys. Chem., Vol. 100 (1996), pp. 13121-131.						
Examiner					Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

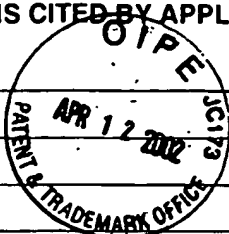
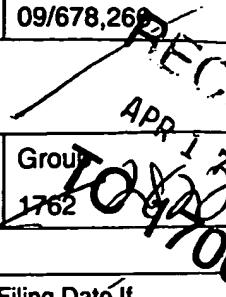


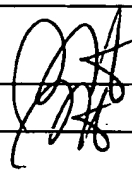
U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. AMAT/4714.P1		Serial No. 09/678,266		
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.				
(Use several sheets if necessary)				Filing Date October 03, 2000		Group 1700		
Examiner Unknown								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
DA	A28	5,521,126	05/28/96	Okamura et al.	437	235	06/22/1994	
DA	A29	5,527,733	06/18/96	Nishizawa et al.	437	160	02/18/1994	
DA	A30	5,540,783	07/30/96	Eres et al.	118	725	05/26/1994	
DA	A31	5,601,651	02/11/97	Watabe	118	715	12/14/1994	
DA	A32	5,616,181	04/01/97	Yamamoto et al.	118	723 ER	11/21/1995	
DA	A33	5,641,984	06/24/97	Aftergut et al.	257	433	08/19/1994	
DA	A34	5,644,128	07/01/97	Wollnik et al.	250	251	08/25/1994	
DA	A35	5,707,880	01/13/98	Aftergut et al.	437	3	01/17/1997	
DA	A36	5,747,113	05/05/98	Tsai	427	255.5	07/29/1996	
DA	A37	5,749,974	05/12/98	Habuka et al.	118	725	07/13/1995	
DA	A38	5,796,116	08/18/98	Nakata et al.	257	66	07/25/1995	
DA	A39	5,807,792	09/15/98	Ilg et al.	438	758	12/18/1996	
DA	A40	5,830,270	11/03/98	McKee et al.	117	106	08/05/1996	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B10	00/79576 A1	12/28/2000	WO	H01L	21/205		X
DA	B11	00/79019 A1	12/28/2000	WO	C23C	16/00		X
DA	B12	00/63957 A1	10/26/2000	WO	H01L	21/205		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
DA	C5	George, et al., "Atomic layer controlled deposition of SiO ₂ and Al ₂ O ₃ using ABAB... binary reaction sequence chemistry", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 460-467.						
DA	C6	Wise, et al., "Diethyldiethoxysilane as a new precursor for SiO ₂ growth on silicon", <i>Mat. Res. Soc. Symp. Proc.</i> , Vol. 334 (1994), pp. 37-43.						
Examiner [Signature]				Date Considered [Signature]				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

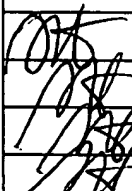
U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group 1G263 28003	
Examiner Unknown								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date if Appropriate	
	A41	5,835,677	11/10/98	Li et al.	392	401	10/03/1996	
	A42	5,855,675	01/05/99	Doering et al.	118	719	03/03/1997	
	A43	5,858,102	01/12/99	Tsai	118	719	02/14/1998	
	A44	5,879,459	03/09/99	Gadgil et al.	118	715	08/29/1997	
	A45	5,904,565	05/18/1999	Nguyen, et al.	438	687	07/17/1997	
	A46	5,916,365	06/29/99	Sherman	117	92	08/16/1996	
	A47	5,923,056	07/13/99	Lee et al.	257	192	03/12/1998	
	A48	5,923,985	07/13/99	Aoki et al.	438	301	01/14/1997	
	A49	5,925,574	07/20/99	Aoki et al.	437	31	04/10/1992	
	A50	5,942,040	08/24/99	Kim et al.	118	726	08/27/1997	
	A51	5,947,710	09/07/1999	Cooper, et al.	418	63	06/16/1997	
	A52	5,972,430	10/26/99	DiMeo, Jr. et al.	427	255.32	11/26/1997	
	A53	6,001,669	12/14/99	Gaines et al.	438	102	07/21/1992	
	A54	6,174,377	01/16/2001	Doering, et al.	118	729	01/04/1999	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B13	00/54320 A1	09/14/2000	WO	H01L	21/44		X
	B14	00/16377 A2	03/23/2000	WO	H01L	---		X
	B15	00/15881 A2	03/23/2000	WO	C30B	---		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
	C7	Niinisto, et al., "Synthesis of oxide thin films and overlayers by atomic layer epitaxy for advanced applications", <i>Mat. Sci. & Eng.</i> , Vol. B41 (1996), pp. 23-29.						
	C8	Ritala, et al., "Perfectly conformal TiN and Al ₂ O ₃ films deposited by atomic layer deposition", <i>Chemical Vapor Deposition</i> , Vol. 5(1) (January 1999), pp. 7-9.						
Examiner					Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								


U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group 1762	
Examiner Unknown								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
<i>JA</i>	A55	6,174,809	01/16/2001	Kang, et al.	438	682	12/15/1998	
<i>JA</i>	A56	6,203,613	03/20/2001	Gates, et al.	117	104	10/19/1999	
<i>JA</i>	A57	6,207,302	03/27/2001	Sugiura, et al.	428	690	03/02/1998	
<i>JA</i>	A58	6,248,605	06/19/2001	Harkonen, et al.	438	29	06/02/1999	
<i>JA</i>	A59	6,270,572	08/07/2001	Kim, et al.	117	93	08/09/1999	
<i>JA</i>	A60	6,287,965	09/11/2001	Kang, et al.	438	648	02/23/2000	
<i>JA</i>	A61	6,291,876	09/18/2001	Stumborg, et al.	257	632	08/20/1998	
<i>JA</i>	A62	6,305,314	10/23/2001	Sneh, et al.	118	723 R	12/17/1999	
<i>JA</i>	A63	6,306,216	10/23/2001	Kim, et al.	118	725	07/12/2000	
<i>JA</i>	A64	6,316,098	11/13/2001	Yitzchaik, et al.	428	339	03/23/1999	
<i>JA</i>	A65	2001/0000866	05/10/2001	Sneh, et al.	118	723 R	11/29/2000	
<i>JA</i>	A66	2001/0009140	07/26/2001	Bondestam, et al.	118	725	01/25/2001	
<i>JA</i>	A67	2001/0011526	08/09/2001	Doering, et al.	118	729	01/16/2001	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
<i>JA</i>	B16	99/41423 A2	08/19/1999	WO	C23C	---		X
<i>JA</i>	B17	96/18756 A1	06/20/1996	WO	C23C	16/08		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
<i>JA</i>	C9	Min, et al., "Atomic layer deposition of TiN thin films by sequential introduction of Ti precursor and NH/sub3", <i>Symp.: Advanced Interconnects and Contact Materials and Processes for Future Integrated Circuits</i> (Apr. 13-16, 1998), pp. 337-342.						
<i>JA</i>	C10	Klaus, et al., "Atomic Layer Deposition of Tungsten using Sequential Surface Chemistry with a Sacrificial Stripping Reaction," <i>Thin Solid Films</i> 360 (2000), Pages 145 - 153, (Accepted Nov. 16, 1999).						
Examiner <i>Jan H. Jan</i>					Date Considered <i>8/6/02</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. AMAT/4714.P1		Serial No. 09/678,269	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.			
(Use several sheets if necessary)				Filing Date October 03, 2000		Group 1762	
Examiner Unknown							

U.S. Patent Documents							
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
	A68	2001/0031562	10/18/2001	Raaijmakers, et al.	438	770	02/22/2001
	A69	2001/0034123	10/25/2001	Jeon, et al.	438	643	04/06/2001
	A70						
	A71						
	A72						
	A73						
	A74						
	A75						
	A76						

Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B18	96/17107 A1	06/06/1996	WO	C28C	16/44		X
	B19	93/02111 A1	02/04/1993	WO	C03F	4/78		X
	B20	0 442 490 A1	08/21/1991	EP	C30B	25/02		X
	B21	0 344 352 A1	12/06/1989	EP	H01L	39/24		X

OTHER ART	
*Examiner Initial	Including Author, Title, Date, Pertinent Pages, Etc.
	C11 Min, et al., "Metal-Organic Atomic-Layer Deposition of Titanium-Silicon-Nitride Films", <i>Applied Physics Letters</i> , American Inst. Of Physics, Vol 75(11) (Sept. 13, 1999).
	C12 Martensson, et al., "Atomic Layer Epitaxy of Copper on Tantalum", <i>Chemical Vapor Deposition</i> , 3(1) (Feb. 1, 1997), pp. 45-50.
Examiner	Date Considered 8/6/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678 266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group	
Examiner Unknown								

U.S. Patent Documents

*Examiner Initial	Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
	A77					
	A78					
	A79					
	A80					

Foreign Patent Documents

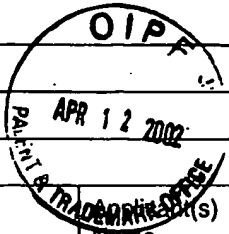
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						YES	NO
	B22	62-091495 A	04/25/1987	JP	C30B	25/02	X
	B23	60-065712 A	04/15/1985	JP	C01B	33/113	X
	B24	03-048421	03/01/1991	JP	H01L	21/302	X
	B25	03-286531	12/17/1991	JP	H01L	21/316	X
	B26	04-031396 A	02/03/1992	JP	C30B	25/14	X
	B27	06-291048	10/18/1994	JP	H01L	21/205	X
	B28	08-264530	10/11/1996	JP	H01L	21/3205	X
	B29	11-269652	10/05/1999	JP	C23C	16/44	X

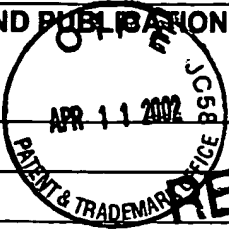
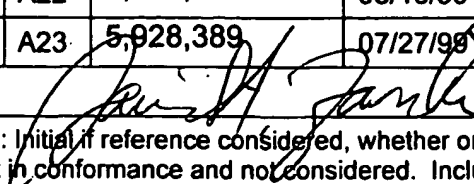
OTHER ART

*Examiner Initial	Including Author, Title, Date, Pertinent Pages, Etc.
	C13 Ritala, et al. "Atomic Layer Epitaxy Growth of TiN Thin Films", <i>J. Electrochem. Soc.</i> , 142(8) (Aug. 1995), pp. 2731-737.
	C14 Elers, et al., "NbC15 as a precursor in atomic layer epitaxy", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 468-474.
	C15 Lee, "The Preparation of Titanium-Based Thin Film by CVD Using Titanium Chlorides as Precursors", <i>Chemical Vapor Deposition</i> , 5(2) (Mar. 1999), pp. 69-73.
	C16 Martensson, et al., "Atomic Layer Epitaxy of Copper, Growth & Selectivity in the Cu (II)-2,2,6,6-Tetramethyl-3, 5-Heptanedione ATE/H2 Process", <i>J. Electrochem. Soc.</i> , 145(8) (Aug. 1998), pp. 2926-2931.

Examiner	Date Considered
----------	-----------------

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. AMAT/4714.P1		Serial No. 09/678,266		
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.				
(Use several sheets if necessary)				Filing Date October 03, 2000		Group 176228300		
Examiner Unknown								
<div style="text-align: center;">  </div>								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
	A81							
	A82							
	A83							
	A84							
	A85							
	A86							
	A87							
	A88							
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES NO	
	B30	2001-62244	03/13/2001	JP	B01D	53/34		X
	B31	198 20 147	07/01/1999	DE	H01L	21/3205		X
	B32	196 27 017	01/09/1997	DE	H01L	21/283		X
	B33	2 626 110	07/21/1989	FR	H01L	39/24		X
	B34	2 692 597	12/24/1993	FR	C23C	16/00		X
	B35	2 355 727	05/02/2001	GB	C23C	16/44		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
	C17	Min, et al., "Chemical Vapor Deposition of Ti-Si-N Films with Alternating Source Supply", <i>Mat., Res. Soc. Symp. Proc.</i> , Vol. 564 (Apr. 5, 1999), pp. 207-210						
	C18	Bedair, "Atomic layer epitaxy deposition processes", <i>J. Vac. Sci. Technol.</i> 12(1) (Jan/Feb 1994)						
	C19	Yamaga, et al., "Atomic layer epitaxy of ZnS by a new gas supplying system in a low-pressure metalorganic vapor phase epitaxy", <i>J. of Crystal Growth</i> 117 (1992), pp. 152-155						
	C20	Elam, et al., "Nucleation and growth during tungsten atomic layer deposition on SiO2 surfaces," <i>Thin Solid Films</i> 386 (2001) Pages 41 - 52, (Accepted Dec. 14, 2000).						
Examiner				Date Considered				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

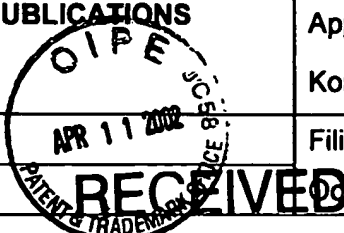
U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)				Filing Date October 30, 2000		Group 1782 2827	
Examiner Unknown							
U.S. Patent Documents							
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
CH	A1	4,813,846	03/21/89	Helms	414	744.1	04/29/87
CH	A2	4,917,556	04/17/90	Stark et al.	414	217	05/26/89
CH	A3	4,951,601	08/28/90	Maydan, et al.	118	719	06/23/89
CH	A4	5,000,113	03/19/91	Wang et al.	118	723	12/19/86
CH	A5	5,186,718	02/16/93	Tepman et al.	29	25.01	04/15/91
CH	A6	5,205,077	04/27/93	Wittstock	51	165 R	08/28/91
CH	A7	5,234,561	08/10/93	Randhawa et al.	204	192.38	08/25/88
CH	A8	5,259,881	11/09/93	Edwards, et al.	118	719	05/17/91
CH	A9	5,286,296	02/15/94	Sato et al.	118	719	01/09/92
CH	A10	5,609,689	03/11/97	Kato et al.	118	719	06/03/96
CH	A11	5,667,592	09/16/97	Boitnott et al.	118	719	04/16/96
CH	A12	5,674,786	10/07/97	Turner et al.	437	225	06/05/95
CH	A13	5,695,564	12/09/97	Imahashi	118	719	08/03/95
CH	A14	5,730,801	03/24/98	Tepman et al.	118	719	08/23/94
CH	A15	5,788,447	08/04/98	Yonemitsu et al.	414	217	08/05/96
CH	A16	5,788,799	08/04/98	Steger, et al.	156	345	06/11/96
CH	A17	5,801,634	09/01/98	Young et al.	340	635	09/08/97
CH	A18	5,856,219	01/05/99	Naito et al.	438	241	08/18/97
CH	A19	5,866,213	02/02/99	Foster et al.	427	573	07/19/97
CH	A20	5,866,795	02/02/99	Wang et al.	73	1.36	03/17/97
CH	A21	5,882,165	03/16/99	Maydan et al.	414	217	09/10/97
CH	A22	5,882,413	03/16/99	Beaulieu et al.	118	719	07/11/97
CH	A23	5,928,389	07/27/98	Jevtic	29	25.01	10/21/96
Examiner 					Date Considered 8/6/02		
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.							

*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
OA	A24	6,051,286	04/18/00	Zhao et al.	427	576	08/22/97
OA	A25	6,062,798	05/16/00	Muka	414	416	06/13/96
OA	A26	6,071,808	06/06/00	Merchant et al.	438	633	06/23/99
OA	A27	6,084,302	07/04/00	Sandhu	257	751	12/26/95
OA	A28	6,086,677	07/11/00	Umotoy et al.	118	715	06/16/98
OA	A29	6,110,556	08/29/00	Bang, et al.	428	64.1	10/17/97
OA	A30	6,117,244	09/12/00	Bang, et al.	118	715	03/24/98
OA	A31	6,140,237	10/31/00	Chan et al.	438	687	04/19/99
OA	A32	6,140,238	10/31/00	Kitch	438	687	04/21/99
OA	A33	6,143,659	11/07/00	Leem	438	688	08/27/98
OA	A34	6,144,060	11/07/00	Park et al.	257	310	07/31/98
OA	A35	6,158,446	12/12/00	Mohindra et al.	134	25.4	09/04/98
OA	A36	6,206,967	03/27/01	Mak, et al.	118	666	06/14/00
OA	A37	6,271,148	08/07/01	Kao et al.	438	727	10/13/99
OA	A38	2001/0041250	11/15/01	Werkhoven et al.	428	212	03/06/01

TC 1700

T:\CLIENTS\APPMALD MISC\IDS 1449 PART 2.DOT

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)					Filing Date October 30, 2000		Group 1782 2827	
Examiner Unknown								
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
AZ	B1	58-098917	06/13/1983	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B2	58-100419	06/15/1983	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B3	61-035847	02/20/1986	JP	B01J	19/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B4	61-210623	09/18/1986	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B5	62-069508	03/30/1987	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B6	62-141717	06/25/1987	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B7	62-167297	07/23/1987	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B8	62-171999	07/28/1987	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B9	62-232919	10/13/1987	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B10	63-062313	03/18/1988	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B11	63-085098	04/15/1988	JP	C30B	21/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B12	63-090833	04/21/1988	JP	H01L	21/365	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B13	63-222420	09/16/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B14	63-222421	09/16/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B15	63-227007	09/21/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B16	63-252420	10/19/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B17	63-266814	11/02/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B18	64-009895	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B19	64-009896	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B20	64-009897	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B21	64-037832	02/08/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B22	64-082615	03/28/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B23	64-082617	03/28/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AZ	B 24	64-082671	03/28/1989	JP	H01L	29/78	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>David H. Farnham</i>					Date Considered <i>8/6/02</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)					Filing Date October 30, 2000		Group 1782 2827	
Examiner Unknown								
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
				TC 1700			YES	NO
AL	B25	64-082676	03/28/1989	JP	H01L	29/80	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B26	64-090524	04/07/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B27	01-103982	04/21/1989	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B28	01-103996	04/21/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B29	01-117017	05/09/1989	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B30	01-143221	06/05/1989	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B31	01-143233	06/05/1989	JP	H01L	21/76	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B32	01-154511	06/16/1989	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B33	01-236657	09/21/1989	JP	H01L	29/80	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B34	01-245512	09/29/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B35	01-264218	10/20/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B36	01-270593	10/27/1989	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B37	01-272108	10/31/1989	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B38	01-290221	11/22/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B39	01-290222	11/22/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B40	01-296673	11/30/1989	JP	H01L	29/88	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B41	01-303770	12/07/1989	JP	H01L	39/24	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B42	01-305894	12/11/1989	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B43	01-313927	12/19/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B44	02-012814	01/17/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B45	02-014513	01/18/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B46	02-017634	01/22/1990	JP	H01L	21/225	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B47	02-063115	03/02/1990	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B48	02-074029	03/14/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>[Signature]</i>					Date Considered <i>8/6/12</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)				Filing Date October 30, 2000		Group 1762 <i>282+</i>	
Examiner Unknown				APR 11 2002 RECEIVED			
Foreign Patent Documents							
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						YES	NO
<i>AT</i>	B49	02-074587	JP	C80B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B50	02-106822	JP	H01B	13/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B51	02-129913	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B52	02-162717	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B53	02-172895	JP	C30B	29/36	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B54	02-196092	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B55	02-203517	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B56	02-230690	JP	H05B	33/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B57	02-230722	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B58	02-246161	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B59	02-264491	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B60	02-283084	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B61	02-304916	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B62	03-019211	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B63	03-022569	JP	H01L	29/804	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B64	03-023294	JP	C30B	25/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B65	03-023299	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B66	03-044967	JP	H01L	29/48	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B67	03-070124	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B68	03-185716	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B69	03-208885	JP	C30B	23/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B70	03-234025	JP	H01L	21/318	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B71	03-286522	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AT</i>	B72	04-031391	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>Pat H. J. [Signature]</i>				Date Considered <i>8/6/2</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.							

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)					Filing Date October 30, 2000		Group 1762 2827	
Examiner Unknown					RECEIVED APR 11 2002 OIP E JCS PATENT & TRADEMARK OFFICE 8500			
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
AL	B73	04-031396	02/03/1992	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B74	04-100292	04/02/1992	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B75	04-111418	04/13/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B76	04-132214	05/06/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B77	04-132681	05/06/1992	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B78	04/151822	05/25/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B79	04-162418	06/05/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B80	04-175299	06/23/1992	JP	C30B	29/68	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B81	04-186824	07/03/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B82	04-212411	08/04/1992	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B83	04-260696	09/16/1992	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B84	04-273120	09/29/1992	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B85	04-285167	10/09/1992	JP	C23C	14/54	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B86	04-291916	10/16/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B87	04-325500	11/13/1992	JP	C30B	33/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B88	04-328874	11/17/1992	JP	H01L	29/804	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B89	05-029228	02/05/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B90	05-047665	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B91	05-047666	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B92	05-047668	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B93	05-074717	03/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B94	05-074724	03/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B95	05-102189	04/23/1993	JP	H01L	21/336	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B96	05-160152	06/25/1993	JP	H01L	21/336	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>[Signature]</i>					Date Considered 8/6/02			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

RECEIVED

APR 15 2002

PG 1700

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		Docket No. APP M/4714.P1	Serial No. 09/678,266
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT		Applicant Kori, et al.	Confirmation No.: Unknown
(Use several sheets if necessary)		Filing Date October 30, 2000	Group 1762 2827
Examiner: Unknown			

Foreign Patent Documents

*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
AL	B97	05-175143	07/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B98	05-175145	07/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B99	05-182906	07/23/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B100	05-186295	07/27/1993	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B101	05-206036	08/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B102	05-234899	09/10/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B103	05-235047	09/10/1993	JP	H01L	21/338	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B104	05-251339	09/28/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B105	05-270997	10/19/1993	JP	C30B	29/68	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B106	05-283336	10/29/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B107	05-291152	11/05/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B108	05-304334	11/16/1993	JP	H01L	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B109	05-343327	12/24/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B110	05-343685	12/24/1993	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B111	06-045606	02/18/1994	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B112	06-132236	05/13/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B113	06-177381	06/24/1994	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B114	06-196809	07/15/1994	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B115	06-222388	08/12/1994	JP	G02F	1/136	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B116	06-224138	08/12/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B117	06-230421	08/19/1994	JP	G02F	1/136	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B118	06-252057	09/09/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B119	07-070752	03/14/1995	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B120	07-086269	03/13/1995	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Examiner	Date Considered
----------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office		Doc. No.	Serial No.
(PTO Form 1449 modified)		APPM/4714.P1	09/678,266
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT		Applicant	Confirmation No.:
		Kori, et al.	Unknown
(Use several sheets if necessary)		Filing Date	Group
Examiner Unknown		October 30, 2000	1762 2827

Foreign Patent Documents

*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
AT	B121	07-086269	03/13/1995	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B122	08-181076	07/12/1996	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B123	08-245291	09/24/1996	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B124	09-260786	10/03/1997	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B125	09-293681	11/11/1997	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B126	10-188840	07/21/1998	JP	H01J	29/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B127	10-190128	07/21/1998	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B128	10-308283	11/17/1998	JP	H05B	33/22	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B129	11-269652	10/05/1999	JP	C23C	16/44	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B130	2000-031387	01/28/2000	JP	H01L	27/04	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B131	2000-058777	02/25/2000	JP	H01L	27/108	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B132	2000-068072	03/03/2000	JP	H05B	33/22	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B133	2000-087029	03/28/2000	JP	C09K	11/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B134	2000-138094	05/16/2000	JP	H05B	33/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B135	2000-218445	08/08/2000	JP	B23P	6/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B136	2000-319772	11/21/2000	JP	C23C	14/24	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B137	2000-319772	03/28/2000	JP	C23C	16/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B138	2000-340883	12/08/2000	JP	H01S	5/125	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B139	2000-353666	12/19/2000	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B140	2001-020075	01/23/2001	JP	C23C	16/44	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B141	2001-152339	06/05/2001	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B142	2001-172767	06/26/2001	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B143	2001-189312	07/10/2001	JP	H01L	21/316	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B144	2001-217206	08/10/2001	JP	H01L	21/285	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B145	2001-220287	08/14/2001	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT	B146	2001-220294	08/14/2001	JP	C30B	29/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Examiner

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

APR 15 2002
PUBLICATIONS
TC 1700
APR 11 2002
PATENT & TRADEMARK OFFICE

[illegible]

initial if reference considered, whether or not cita

8/6/2

T:\CLIENTS\APPMALD MISC\IDS 1449 PART 2.DOT

RECEIVED

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		APR 15 2002 TC 1700	Docket No. APPM/4714.P1	Serial No. 09/678,266
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT			Applicant Kori, et al.	Confirmation No.: Unknown
(Use several sheets if necessary)			Filing Date October 30, 2000	Group 17822827
Examiner Unknown				

OTHER ART

*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.
PAZ	C1	Ohba, et al., "Thermal Decomposition of Methylhydrazine and Deposition Properties of CVD TiN Thin Films", Conference Proceedings, Advanced Metallization for ULSI Applications in 1993 (1994), pp. 143-149
PAZ	C2	Scheper, et al., "Low-temperature deposition of titanium nitride films from dialkylhydrazine-based precursors", Materials Science in Semiconductor Processing 2 (1999), pp. 149-157
PAZ	C3	Suzuki, et al., "A 0.2- μ m contact filing by 450°C-hydrazine-reduced TiN film with low resistivity", IEDM 92-979, pp. 11.8.1 - 11.8.3
PAZ	C4	Suzuki, et al., "LPCVD-TiN Using Hydrazine and TiCl ₄ ", VMIC Conference (June 8-9, 1993), pp. 418-423
PAZ	C5	IBM Tech. Disc. Bull. "Knowledge-Based Dynamic Scheduler in Distributed Computer Control, (June 1990), pp. 80-84
PAZ	C6	IBM Tech. Disc. Bull. "Multiprocessor and Multitasking Architecture for Tool Control of the Advanced via Inspection Tools" (May 1992), pp. 190-191
PAZ	C7	McGeachin, S., "Synthesis and properties of some β -diketimines derived from acetylacetone, and their metal complexes", Canadian J. of Chemistry, Vol. 46 (1968), pp.1903-1912
PAZ	C8	Solanki, et al., "Atomic Layer deposition of Copper Seed Layers", Electrochemical and Solid State Letters, 3(10) (2000), pp. 479-480
PAZ	C9	NERAC.COM Retro Search: Atomic Layer Deposition of Copper, dated October 11, 2001
PAZ	C10	NERAC.COM Retro Search: Atomic Layer Deposition / Epitaxy Aluminum Oxide Plasma, dated October 2, 2001
PAZ	C11	NERAC Search abstract of "Atomic Layer deposition of Ta and Ti for Interconnect Diffusion Barriers", by Rossnagel, et al., J. Vac. Sci. & Tech., 18(4) (July 2000)
PAZ	C12	Abstracts of articles re atomic layer deposition
PAZ	C13	Abstracts of search results re atomic layer deposition, search dated January 24, 2002
PAZ	C14	Abstracts of articles re atomic layer deposition and atomic layer nucleation
PAZ	C15	Abstracts of articles re atomic layer deposition and semiconductors and copper
Examiner	Date Considered 8/6/02	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

RECEIVED

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		APR 15 2002 Docket No. APPM/4714.P1	Serial No. 09/678,266
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT		Applicant Kori, et al.	Confirmation No.: Unknown
(Use several sheets if necessary)		Filing Date October 30, 2000	Group 1762 2827
Examiner Unknown			
OTHER ART			
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.	
MAE	C16	Abstracts of articles – atomic layer deposition	
MAE	C17	NERAC Search – Atomic Layer Deposition, search dated October 16, 2001	
MAE	C18	Bader, et al., "Integrated Processing Equipment", Solid State Technology, Cowan Pub., Vol. 33, No. 5 (May 1, 1990), pp. 149-154	
MAE	C19	Choi, et al., "The effect of annealing on resistivity of low pressure chemical vapor deposited titanium diboride", J. Appl. Phys. 69(11) (June 1, 1991), pp. 7853-7861	
MAE	C20	Choi, et al., "Stability of TiB ₂ as a Diffusion Barrier on Silicon", J. Electrochem. Soc. 138(10) (October 1991), pp. 3062-3067	
MAE	C21	"Cluster Tools for Fabrication of Advanced devices" Jap. J. of Applied Physics, Extended Abstracts, 22 nd Conference Solid State Devices and Materials (1990), pp. 849 – 852 XP000178141 (ARTICLE ON ORDER – TO BE PROVIDED)	
MAE	C22	"Applications of Integrated processing", Solid State Technology, US, Cowan Pub., Vol 37, No. 12 (December 1, 1994), pp. 45-47	
MAE	C23	Kitigawa, et al., "Hydrogen-mediated low temperature epitaxy of Si in plasma-enhanced chemical vapor deposition", Applied Surface Science (2000), pp. 30-34 (ARTICLE ON ORDER – TO BE PROVIDED)	
MAE	C24	Lee, et al., "Pulsed nucleation for ultra-high aspect ratio tungsten plugfill", Novellus Systems, Inc. (2001), pp. 1-2 (ARTICLE ON ORDER – TO BE PROVIDED)	
Examiner	Date Considered		8/6/02
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.			

Please type a plus sign (+) inside this box

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0851-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number 09/678,866
Filing Date 10/03/2000
First Named Inventor Ming Xi
Group Art Unit 1762 2827
Examiner Name Unassigned ZARNKE
Attorney Docket Number 4714P1/AMI-11

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
<i>[Handwritten initials]</i>	AJ	4,058,430		Suntola et al.	11-15-1977	
	AK	4,389,973		Suntola et al.	06-28-1983	
	AL	4,413,022		Suntola et al.	11-01-1983	
	AM	4,767,494		Kobayashi et al.	08-30-1988	
	AN	4,806,321		Nishizawa et al.	02-21-1989	
	AO	4,840,921		Matsumoto	06-20-1989	
	AP	4,845,049		Sunakawa	07-04-1989	
	AQ	4,859,627		Sunakawa	08-22-1989	
	AR	4,861,417		Mochizuki et al.	08-29-1989	
	AS	4,876,218		Pessa et al.	10-24-1989	
	AT	4,993,357		Scholz	02-19-1991	
	AU	5,082,798		Anmoto	01-21-1992	
	AV	5,130,269		Kitahara et al.	07-14-1992	
	AW	5,166,092		Mochizuki et al.	11-24-1992	
	AX	5,225,366		Yoder	07-06-1993	
	AY	5,250,148		Nishizawa et al.	10-05-1993	
	AZ	5,256,244		Ackerman	10-26-1993	
	BA	5,270,247		Sakuma et al.	12-14-1993	
	BB	5,278,435		Van Hove et al.	01-11-1994	
	BC	5,281,274		Yoder	01-25-1994	

RECEIVED
DEC 04 2001
TC 1700

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document ³			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08A (08-00)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Complete if Known

Application Number	09/678,266
Filing Date	10/03/2000
First Named Inventor	Ming Xi
Group Art Unit	1762 2827
Examiner Name	Unassigned JAMES
Attorney Docket Number	4714P1/AMI-11

(use as many sheets as necessary)

Sheet 2 of 4

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
<i>[Handwritten initials]</i>	BD	5,290,748		Knuuttila et al.	03-01-1994	
	BE	5,294,286		Nishizawa et al.	03-15-1994	
	BF	5,300,186		Kitahara et al.	04-05-1994	
	BG	5,316,793		Wallace et al.	05-31-1994	
	BH	5,330,610		Eres et al.	07-19-1994	
	BI	5,336,324		Stall et al.	08-09-1994	
	BJ	5,338,389		Nishizawa et al.	08-16-1994	
	BK	5,395,791		Cheng et al.	03-07-1995	
	BL	5,443,033		Nishizawa et al.	08-22-1995	
	BM	5,458,084		Thorne et al.	10-17-1995	
	BN	5,480,818		Matsumoto et al.	01-02-1996	
	BO	5,484,664		Kitahara et al.	01-16-1996	
	BP	5,483,919		Yokoyama et al.	01-16-1996	
	BQ	5,532,511		Nishizawa et al.	07-02-1996	
	BR	5,637,530		Gaines et al.	06-10-1997	
	BS	5,693,139		Nishizawa et al.	12-02-1997	
	BT	5,705,224		Murota et al.	01-06-1998	
	BU	5,711,811		Suntola et al.	01-27-1998	
BV	5,730,802		Ishizumi et al.	03-24-1998		
BW	5,851,849		Comizzoli et al.	12-22-1998		

RECEIVED

DEC 04 2001

TC 1700

[illegible]Date
Considered

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/DBA (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 3 of 4

Complete if Known

Application Number	09/678,266
Filing Date	10/03/2000
First Named Inventor	Ming Xi
Group Art Unit	4762 282
Examiner Name	Unassigned 2
Attorney Docket Number	4714P1/AMI-11

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Complete if Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 4 of 4

Application Number	09/678,266
---------------------------	-------------------

Filing Date	10/03/2000
--------------------	------------

First Named Inventor	Ming Xi
-----------------------------	---------

Group Art Unit	1762
----------------	------

Examiner Name	Unknown
---------------	---------

Attorney Docket Number 4714P1/AMI-11

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

[illegible]

RECEIVED

DEC 04 2001

TC 1700

**Examiner
Signature**

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231**

+

+

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

(use as many sheets as necessary)

Complete if Known

Application Number	unassigned 89/678246
Filing Date	Unassigned
First Named Inventor	Ming Xi
Group Art Unit	Unassigned 2823
Examiner Name	Unassigned SARNEKE
Attorney Docket Number	4714 P4/AMI-00-11

Sheet 1 of 2

U.S. PATENT DOCUMENTS

[illegible]

class
sub
class

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

+

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known *9/678266*

Application Number	unassigned
Filing Date	unassigned
First Named Inventor	Ming Xi
Group Art Unit	unassigned 2827
Examiner Name	unassigned JAPANA
Attorney Docket Number	4714 P1/AMI-00-11

(use as many sheets as necessary)

Sheet 2 of 2

Attorney Docket Number 4714 P1/AMI-00-11

[illegible]

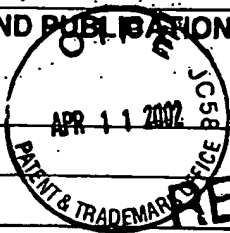
**Examiner
Signature**

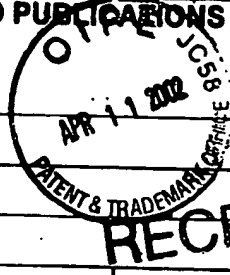
Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)				Filing Date October 30, 2000		Group 1762 2827	
Examiner Unknown				<div style="text-align: center;">  </div>			
U.S. Patent Documents							
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
PH	A1	4,813,846	03/21/89	Helms	414	744.1	04/29/87
PH	A2	4,917,556	04/17/90	Stark et al.	414	217	05/26/89
PH	A3	4,951,601	08/28/90	Maydan, et al.	118	719	06/23/89
PH	A4	5,000,113	03/19/91	Wang et al.	118	723	12/19/86
PH	A5	5,186,718	02/16/93	Tepman et al.	29	25.01	04/15/91
PH	A6	5,205,077	04/27/93	Wittstock	51	165 R	08/28/91
PH	A7	5,234,561	08/10/93	Randhawa et al.	204	192.38	08/25/88
PH	A8	5,259,881	11/09/93	Edwards, et al.	118	719	05/17/91
PH	A9	5,286,296	02/15/94	Sato et al.	118	719	01/09/92
PH	A10	5,609,689	03/11/97	Kato et al.	118	719	06/03/96
PH	A11	5,667,592	09/16/97	Boitnott et al.	118	719	04/16/96
PH	A12	5,674,786	10/07/97	Turner et al.	437	225	06/05/95
PH	A13	5,695,564	12/09/97	Imahashi	118	719	08/03/95
PH	A14	5,730,801	03/24/98	Tepman et al.	118	719	08/23/94
PH	A15	5,788,447	08/04/98	Yonemitsu et al.	414	217	08/05/96
PH	A16	5,788,799	08/04/98	Steger, et al.	156	345	06/11/96
PH	A17	5,801,634	09/01/98	Young et al.	340	635	09/08/97
PH	A18	5,856,219	01/05/99	Naito et al.	438	241	08/18/97
PH	A19	5,866,213	02/02/99	Foster et al.	427	573	07/19/97
PH	A20	5,866,795	02/02/99	Wang et al.	73	1.36	03/17/97
PH	A21	5,882,165	03/16/99	Maydan et al.	414	217	09/10/97
PH	A22	5,882,413	03/16/99	Beaulieu et al.	118	719	07/11/97
PH	A23	5,928,389	07/27/98	Jevtic	29	25.01	10/21/96
Examiner <i>[Signature]</i>				Date Considered 8/6/02			
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.</p>							

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)						Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT						Applicant Kori, et al.		Confirmation No. Unknown	
(Use several sheets if necessary)						Filing Date October 30, 2000		Group 1782 2827	
Examiner Unknown									
Foreign Patent Documents									
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation			
						YES	NO		
(PZ)	B1	58-098917	06/13/1983	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B2	58-100419	06/15/1983	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B3	61-035847	02/20/1986	JP	B01B	19/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B4	61-210625	09/18/1986	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B5	62-069508	03/30/1987	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B6	62-141717	06/25/1987	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B7	62-167297	07/23/1987	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B8	62-171999	07/28/1987	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B9	62-232919	10/13/1987	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B10	63-062313	03/18/1988	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B11	63-085098	04/15/1988	JP	C30B	21/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B12	63-090833	04/21/1988	JP	H01L	21/365	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B13	63-222420	09/16/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B14	63-222421	09/16/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B15	63-227007	09/21/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B16	63-252420	10/19/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B17	63-266814	11/02/1988	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B18	64-009895	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B19	64-009896	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B20	64-009897	01/13/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B21	64-037832	02/08/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B22	64-082615	03/28/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B23	64-082617	03/28/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
(PZ)	B 24	64-082671	03/28/1989	JP	H01L	29/78	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Examiner <i>David H. Zamb</i>						Date Considered <i>8/6/2</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.									

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. APPM/4714.P1		Serial No. 09/678,266	
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Kori, et al.		Confirmation No.: Unknown	
(Use several sheets if necessary)					Filing Date October 30, 2000		Group 1782 2827	
Examiner Unknown					RECEIVED APR 11 2002 O I P E PATENT & TRADEMARK OFFICE			
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							EN	NO
107L	B25	64-082676	03/28/1989	JP	H01L	29/80	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B26	64-090524	04/07/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B27	01-103982	04/21/1989	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B28	01-103996	04/21/1989	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B29	01-117017	05/09/1989	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B30	01-143221	06/05/1989	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B31	01-143233	06/05/1989	JP	H01L	21/76	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B32	01-154511	06/16/1989	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B33	01-236657	09/21/1989	JP	H01L	29/80	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B34	01-245512	09/29/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B35	01-264218	10/20/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B36	01-270593	10/27/1989	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B37	01-272108	10/31/1989	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B38	01-290221	11/22/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B39	01-290222	11/22/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B40	01-296673	11/30/1989	JP	H01L	29/88	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B41	01-303770	12/07/1989	JP	H01L	39/24	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B42	01-305894	12/11/1989	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B43	01-313927	12/19/1989	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B44	02-012814	01/17/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B45	02-014513	01/18/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B46	02-017634	01/22/1990	JP	H01L	21/225	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B47	02-063115	03/02/1990	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
107L	B48	02-074029	03/14/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>Paul A. Smith</i>					Date Considered <i>8/6/12</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office

(PTO Form 1449 modified)

SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS
CITED BY APPLICANT

Docket No.

APPM/4714.P1

Serial No.

09/678,266

Applicant

Kori, et al.

Confirmation No.

Unknown

(Use several sheets if necessary)

Examiner Unknown

Filing Date

October 30, 2000

Group

1762

Foreign Patent Documents

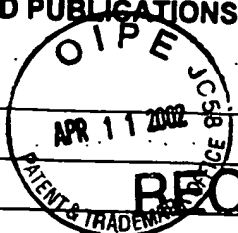
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	YES	NO
<i>DL</i>	B49	02-074587	03/14/1990	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B50	02-106822	04/18/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B51	02-129913	05/18/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B52	02-162717	06/22/1990	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B53	02-172895	07/04/1990	JP	C30B	29/36	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B54	02-196092	08/02/1990	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B55	02-203517	08/13/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B56	02-230690	09/13/1990	JP	H05B	33/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B57	02-230722	09/13/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B58	02-246161	10/01/1990	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B59	02-264491	10/29/1990	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B60	02-283084	11/20/1990	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B61	02-304916	12/18/1990	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B62	03-019211	01/28/1991	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B63	03-022569	01/30/1991	JP	H01L	29/804	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B64	03-023294	01/31/1991	JP	C30B	25/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B65	03-023299	01/31/1991	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B66	03-044967	02/26/1991	JP	H01L	29/48	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B67	03-070124	03/26/1991	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B68	03-185716	08/13/1991	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B69	03-208885	09/12/1991	JP	C30B	23/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B70	03-234025	10/18/1991	JP	H01L	21/318	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B71	03-286522	12/17/1991	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>DL</i>	B72	04-031391	02/03/1992	JP	C30B	23/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Examiner

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office				Pocket No.		Serial No.		
(PTO Form 1449 modified)				APPM/4714.P1		09/678,266		
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant		Confirmation No.:		
				Kori, et al.		Unknown		
(Use several sheets if necessary)				Filing Date		Group		
Examiner Unknown				October 30, 2000		1762 2827		
Foreign Patent Documents								
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation		
						YES	NO	
AL	B73	04-031396	02/03/1992	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B74	04-100292	04/02/1992	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B75	04-111418	04/13/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B76	04-132214	05/06/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B77	04-132681	05/06/1992	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B78	04/151822	05/25/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B79	04-162418	06/05/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B80	04-175299	06/23/1992	JP	C30B	29/68	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B81	04-186824	07/03/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B82	04-212411	08/04/1992	JP	H01L	21/203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B83	04-260696	09/16/1992	JP	C30B	29/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B84	04-273120	09/29/1992	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B85	04-285167	10/09/1992	JP	C23C	14/54	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B86	04-291916	10/16/1992	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B87	04-325500	11/13/1992	JP	C30B	33/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B88	04-328874	11/17/1992	JP	H01L	29/804	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B89	05-029228	02/05/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B90	05-047665	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B91	05-047666	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B92	05-047668	02/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B93	05-074717	03/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B94	05-074724	03/26/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B95	05-102189	04/23/1993	JP	H01L	21/336	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AL	B96	05-160152	06/25/1993	JP	H01L	21/336	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner <i>[Signature]</i>				Date Considered 8/6/02				

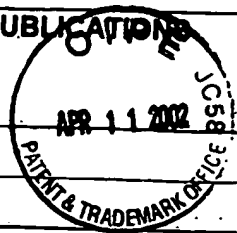


*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

RECEIVED

APR 15 2002

16 1700



U.S. Department of Commerce, Patent and Trademark Office
(PTO Form 1449 modified)

Docket No.

APP/4714.P1

Serial No.

09/678,266

SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS
CITED BY APPLICANT

Applicant

Kori, et al.

Confirmation No.

Unknown

(Use several sheets if necessary)

Filing Date

October 30, 2000

Group

1762 2527

Examiner Unknown

Foreign Patent Documents

*Examiner	Document	Date	Country	Class	Subclass	Translation		
	Number					YES	NO	
<i>AL</i>	B97	05-175143	07/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B98	05-176145	07/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B99	05-182906	07/23/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B100	05-186295	07/27/1993	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B101	05-206036	08/13/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B102	05-234899	09/10/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B103	05-235047	09/10/1993	JP	H01L	21/338	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B104	05-251339	09/28/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B105	05-270997	10/19/1993	JP	C30B	29/68	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B106	05-283336	10/29/1993	JP	H01L	21/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B107	05-291152	11/05/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B108	05-304334	11/16/1993	JP	H01L	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B109	05-343327	12/24/1993	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B110	05-343685	12/24/1993	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B111	06-045606	02/18/1994	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B112	06-132236	05/13/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B113	06-177381	06/24/1994	JP	H01L	29/784	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B114	06-196809	07/15/1994	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B115	06-222388	08/12/1994	JP	G02F	1/136	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B116	06-224138	08/12/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B117	06-230421	08/19/1994	JP	G02F	1/136	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B118	06-252057	09/09/1994	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B119	07-070752	03/14/1995	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B120	07-086269	03/13/1995	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Examiner								

Examiner

Smith-Jarvis

Date Considered

8/6/2

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office

(PTO Form 1449 modified)

Doc. No.

APPM/4714.P1

Serial No.

09/678,266

**SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS
CITED BY APPLICANT**

Applicant

Kori, et al.

Confirmation No.:

Unknown

(Use several sheets if necessary)

Filing Date

October 30, 2000

Group

1762 282.7

Examiner Unknown

Foreign Patent Documents

RECEIVED

APR 15 2002

IC 1700

*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
<i>AL</i>	B121	07-086269	03/13/1995	JP	H01L	21/314	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B122	08-181076	07/12/1996	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B123	08-245291	09/24/1996	JP	C30B	25/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B124	09-260786	10/03/1997	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B125	09-293681	11/11/1997	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B126	10-188840	07/21/1998	JP	H01J	29/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B127	10-190128	07/21/1998	JP	H01S	3/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B128	10-308283	11/17/1998	JP	H05B	33/22	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B129	11-269652	10/05/1999	JP	C23C	16/44	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B130	2000-031387	01/28/2000	JP	H01L	27/04	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B131	2000-058777	02/25/2000	JP	H01L	27/108	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B132	2000-068072	03/03/2000	JP	H05B	33/22	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B133	2000-087029	03/28/2000	JP	C09K	1/08	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B134	2000-138094	05/16/2000	JP	H05B	33/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B135	2000-218445	08/08/2000	JP	B23P	6/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B136	2000-319772	11/21/2000	JP	C23C	14/24	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B137	2000-319772	03/28/2000	JP	C23C	16/00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B138	2000-340883	12/08/2000	JP	H01S	5/125	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B139	2000-353666	12/19/2000	JP	H01L	21/205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B140	2001-020075	01/23/2001	JP	C23C	16/44	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B141	2001-152339	06/05/2001	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B142	2001-172767	06/26/2001	JP	C23C	16/40	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B143	2001-189312	07/10/2001	JP	H01L	21/316	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B144	2001-217206	08/10/2001	JP	H01L	21/285	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B145	2001-220287	08/14/2001	JP	C30B	25/02	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>AL</i>	B146	2001-220294	08/14/2001	JP	C30B	29/20	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Examiner

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

RECEIVED

Serial No.

**SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS
CITED BY APPLICANT**

APPM/4714.P.1

09/678,266

Applicant

Confirmation No.:

Korı, et al.

Unknown

(Use several sheets if necessary)

Examiner . Unknown

Filing Date

October 30, 2000

Group

1762 2827

Foreign Patent Documents

[illegible]

Examiner

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

RECEIVED

10 of 11

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		APR 15 2002 TC 1700	Docket No. APPM/4714.P1	Serial No. 09/678,266
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT			Applicant Kori, et al.	Confirmation No.: Unknown
(Use several sheets if necessary)			Filing Date October 30, 2000	Group 17822827
Examiner Unknown				
OTHER ART				
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.		
PZ	C1	Ohba, et al., "Thermal Decomposition of Methylhydrazine and Deposition Properties of CVD TiN Thin Films", Conference Proceedings, Advanced Metallization for ULSI Applications in 1993 (1994), pp. 143-149		
PZ	C2	Schieper, et al., "Low-temperature deposition of titanium nitride films from diaalkylhydrazine-based precursors", Materials Science in Semiconductor Processing 2 (1999), pp. 149-157		
PZ	C3	Suzuki, et al., "A 0.2-μm contact filing by 450°C-hydrazine-reduced TiN film with low resistivity", IEDM 92-979, pp. 11.8.1 - 11.8.3		
PZ	C4	Suzuki, et al., "LPCVD-TiN Using Hydrazine and TiCl ₄ ", VMIC Conference (June 8-9, 1993), pp. 418-423		
PZ	C5	IBM Tech. Disc. Bull. "Knowledge-Based Dynamic Scheduler in Distributed Computer Control, (June 1990), pp. 80-84		
PZ	C6	IBM Tech. Disc. Bull. "Multiprocessor and Multitasking Architecture for Tool Control of the Advanced via Inspection Tools" (May 1992), pp. 190-191		
PZ	C7	McGeachin, S., "Synthesis and properties of some β-diketimines derived from acetylacetone, and their metal complexes", Canadian J. of Chemistry, Vol. 46 (1968), pp. 1903-1912		
PZ	C8	Solanki, et al., "Atomic Layer deposition of Copper Seed Layers", Electrochemical and Solid State Letters, 3(10) (2000), pp. 479-480		
PZ	C9	NERAC.COM Retro Search: Atomic Layer Deposition of Copper, dated October 11, 2001		
PZ	C10	NERAC.COM Retro Search: Atomic Layer Deposition / Epitaxy Aluminum Oxide Plasma, dated October 2, 2001		
PZ	C11	NERAC Search abstract of "Atomic Layer deposition of Ta and Ti for Interconnect Diffusion Barriers", by Rossnagel, et al., J. Vac. Sci. & Tech., 18(4) (July 2000)		
PZ	C12	Abstracts of articles re atomic layer deposition		
PZ	C13	Abstracts of search results re atomic layer deposition, search dated January 24, 2002		
PZ	C14	Abstracts of articles re atomic layer deposition and atomic layer nucleation		
PZ	C15	Abstracts of articles re atomic layer deposition and semiconductors and copper		
Examiner David A. Jankel		Date Considered 8/6/02		
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.				

RECEIVED

11 of 11

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)		APR 15 2002 TC 1700 APPM/4714.P1	Docket No. Serial No.
SUPPLEMENTAL LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT		Applicant Kori, et al.	Confirmation No.: Unknown
(Use several sheets if necessary)		Filing Date October 30, 2000	Group 1762 <i>2827</i>
Examiner Unknown			
OTHER ART			
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.	
<i>MAE</i>	C16	Abstracts of articles – atomic layer deposition	
<i>MAE</i>	C17	NERAC Search – Atomic Layer Deposition, search dated October 16, 2001	
<i>MAE</i>	C18	Bader, et al., "Integrated Processing Equipment", Solid State Technology, Cowan Pub., Vol. 33, No. 5 (May 1, 1990), pp. 149-154	
<i>MAE</i>	C19	Choi, et al., "The effect of annealing on resistivity of low pressure chemical vapor deposited titanium diboride", J. Appl. Phys. 69(11) (June 1, 1991), pp. 7853-7861	
<i>MAE</i>	C20	Choi, et al., "Stability of TiB ₂ as a Diffusion Barrier on Silicon", J. Electrochem. Soc. 138(10) (October 1991), pp. 3062-3067	
<i>MAE</i>	C21	"Cluster Tools for Fabrication of Advanced devices" Jap. J. of Applied Physics, Extended Abstracts, 22 nd Conference Solid State Devices and Materials (1990), pp. 849 – 852 XP000178141 (ARTICLE ON ORDER – TO BE PROVIDED)	
<i>MAE</i>	C22	"Applications of integrated processing", Solid State Technology, US, Cowan Pub., Vol 37, No. 12 (December 1, 1994), pp. 45-47	
<i>MAE</i>	C23	Kitigawa, et al., "Hydrogen-mediated low temperature epitaxy of Si in plasma-enhanced chemical vapor deposition", Applied Surface Science (2000), pp. 30-34 (ARTICLE ON ORDER – TO BE PROVIDED)	
<i>MAE</i>	C24	Lee, et al., "Pulsed nucleation for ultra-high aspect ratio tungsten plugfill", Novellus Systems, Inc. (2001), pp. 1-2 (ARTICLE ON ORDER – TO BE PROVIDED)	
Examiner		Date Considered <i>8/6/02</i>	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.			

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. APPM/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)					Applicant Kori, et al.		Confirmation No. 4642	
Examiner Zameke, D.					Filing Date 10/03/2000		Group 2827	
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date, If Appropriate	
OH	A1	2001/0042799 A1	11/22/2001	Kim, et al.	239	553	02/02/2001	
	A2							
	A3							
	A4							
	A5							
	A6							
	A7							
	A8							
	A9							
	A10							
	A11							
	A12							
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B1						<input type="checkbox"/>	<input type="checkbox"/>
	B2						<input type="checkbox"/>	<input type="checkbox"/>
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
OH	C1	"Cluster Tools for Fabrication of Advanced Devices" Jap. J of Applied Physics, Extended Abstracts 22 nd Conference Solid State Devices and Materials (1990), pp. 849- 852						
OH	C2	Kitigawa, et al., "Hydrogen-mediated low temperature epitaxy of Si in plasma-enhanced chemical vapor deposition", Applied Surface Science (2000), pp. 30-34						
OH	C3	Lee, et al., "Pulsed nucleation for ultra-high aspect ratio tungsten plugfill", Novellus Systems, Inc. (2001), pp. 1-2 (COPY NOT AVAILABLE TO APPLICANT AT THIS TIME)						
Examiner					Date Considered 8/6/2			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

Under the Paperwork Reduction Act of 1995, no persons are required to

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

2

Complete if Known

Application Number	09/678,266
--------------------	------------

Filing Date	10/3/2000
--------------------	-----------

First Named Inventor	Ming Xi
-----------------------------	---------

Group Art Unit	4702 2821
----------------	----------------------

Examiner Name	unassigned ZARNEK
---------------	--------------------------

Attorney Docket Number	4714P1/AMI-11
------------------------	---------------

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date
Considered

862

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(use as many sheets as necessary)

2

of

2

Alkaline Number

09/678.266

Filing Late

10/3/2000

First Named Inventor

Ming Xi

Group Art Unit

1702 2823

Examiner Name

UNASSIGNED **A FARNER**

Attorney Docket Number

4714P1/AMI-11

Examiner
Initials*Cite
No.

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.

 τ^2

[Handwritten signature]

CQ

Kitagawa et al. Hydrogen-mediated low-temperature epitaxy of Si in plasma-enhanced chemical vapor deposition, *Applied Surface Science*, pp. 30–4 (2000).

**Examiner
Signature**

Date
Considered

8612

*EXAMINER: Initial If reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231**

+

+

Substitute for form 1449A/PTO

Complete if Known

(use as many sheets as necessary)

Sheet

1

of

2

Application Number	unassigned
Filing Date	Unassigned
First Named Inventor	Ming Xi
Group Art Unit	Unassigned 2827
Examiner Name	Unassigned BARNEKE
Attorney Docket Number	4714 P1/AMI-00-11

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date Considered

8/6/2

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Collection of information unless it contains a valid OMB control number.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	2	of	2
-------	---	----	---

Application Number	unassigned
Filing Date	unassigned
First Named Inventor	Ming Xi
Group Art Unit	unassigned 2823
Examiner Name	unassigned 2APM/
Attorney Docket Number	4714 P1/AMI-00-11

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

[illegible]

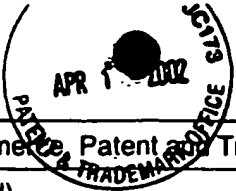

Examiner Signature	<i>David H. Funch</i>	Date Considered	<i>8/6/2</i>
-----------------------	-----------------------	--------------------	--------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

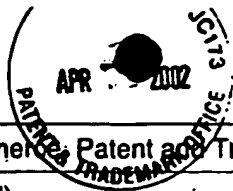
¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group 1762 2825	
Examiner Unknown								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
DA	A1	4,486,487	12/04/84	Skarp	428	216	04/25/1983	
DA	A2	4,829,022	05/09/89	Kobayashi et al.	437	107	12/09/1986	
DA	A3	4,834,831	05/30/89	Nishizawa et al.	156	611	09/04/1987	
DA	A4	4,838,983	06/13/89	Schumaker et al.	156	613	03/18/1988	
DA	A5	4,838,993	06/18/89	Aoki et al.	156	643	12/03/1987	
DA	A6	4,859,625	08/22/89	Nishizawa et al.	437	81	11/20/1987	
DA	A7	4,927,670	05/22/1990	Erbil	427	255.3	06/22/1988	
DA	A8	4,931,132	06/05/90	Aspnes et al.	156	601	10/07/1988	
DA	A9	4,960,720	10/02/90	Shimbo	437	105	08/24/1987	
DA	A10	4,975,252	12/04/90	Nishizawa et al.	422	245	05/26/1989	
DA	A11	5,013,683	05/07/91	Petroff et al.	437	110	01/23/1989	
DA	A12	5,085,885	02/04/92	Foley et al.	477	38	09/10/1990	
DA	A13	5,091,320	02/25/92	Aspnes et al.	437	8	06/15/1990	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B1	01/66832 A2	09/13/2001	WO	C30B	16/44		X
DA	B2	01/40541 A1	06/07/2001	WO	C23C	16/40		X
DA	B3	01/36702 A1	05/25/2001	WO	C23C	16/00		X
DA	B4	01/29893 A1	04/26/2001	WO	H01L	21/768		X
DA	B5	01/29891 A1	04/26/2001	WO	H01L	21/768		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
DA	C1	Hultman, et al., "Review of the thermal and mechanical stability of TiN-based thin films", <i>Zeitschrift Fur Metallkunde</i> , 90(10) (Oct. 1999), pp. 803-813.						
DA	C2	Klaus, et al., "Atomic Layer Deposition of SiO ₂ Using Catalyzed and Uncatalyzed Self-Limiting Surface Reactions", <i>Surface Review & Letters</i> , 6(3&4) (1999), pp. 405-448.						
Examiner					Date Considered 8/6/2			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

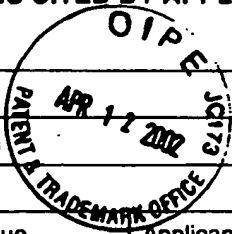



U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group for 1700	
Examiner Unknown					RECEIVED 1700			
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
DA	A14	5,246,536	09/21/93	Nishizawa et al.	156	610	03/10/1989	
DA	A15	5,254,207	10/19/93	Nishizawa et al.	156	601	11/30/1992	
DA	A16	5,296,403	03/22/94	Nishizawa et al.	437	133	10/23/1992	
DA	A17	5,311,055	05/10/94	Goodman et al.	257	593	11/22/1991	
DA	A18	5,316,615	05/31/94	Copel	117	95	03/09/1993	
DA	A19	5,348,911	09/20/94	Jurgensen et al.	117	91	04/26/1993	
DA	A20	5,374,570	12/20/94	Nasu et al.	437	40	08/19/1993	
DA	A21	5,438,952	08/08/1995	Otsuka	117	84	01/31/1994	
DA	A22	5,439,876	08/08/95	Graf et al.	505	447	08/16/1993	
DA	A23	5,441,703	08/15/95	Jurgensen	422	129	03/29/1994	
DA	A24	5,443,647	08/22/95	Aucoin et al.	118	723 ME	07/11/1994	
DA	A25	5,455,072	10/03/95	Bension et al.	427	255.7	11/18/1992	
DA	A26	5,469,806	11/28/95	Mochizuki et al.	117	97	08/20/1993	
DA	A27	5,503,875	04/02/96	Imai et al.	427	255.3	03/17/1994	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B6	01/29280 A1	04/26/2001	WO	C23C	16/32		X
DA	B7	01/27347 A1	04/19/2001	WO	C23C	16/44		X
DA	B8	01/27346 A1	04/19/2001	WO	C23C	16/44		X
DA	B9	01/15220 A1	03/01/2001	WO	H01L	21/768		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
DA	C3	Yamaguchi, et al., "Atomic-layer chemical-vapor-deposition of silicon dioxide films with extremely low hydrogen content", <i>Appl. Surf. Sci.</i> , Vol. 130-132 (1998), pp. 202-207.						
DA	C4	George, et al., "Surface Chemistry for Atomic Layer Growth", <i>J. Phys. Chem.</i> , Vol. 100 (1996), pp. 13121-131.						
Examiner <i>David A. Jensen</i>					Date Considered <i>8/6/02</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

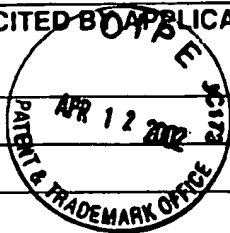
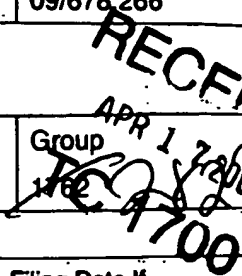
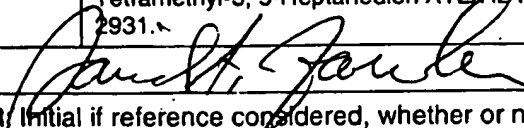
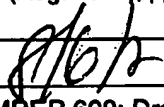


U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)					Applicant Xi, et al.		Filing Date October 03, 2000	
Examiner Unknown					Group 1 7 2002		1082 1700	
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
DA	A28	5,521,126	05/28/96	Okamura et al.	437	235	06/22/1994	
DA	A29	5,527,733	06/18/96	Nishizawa et al.	437	160	02/18/1994	
DA	A30	5,540,783	07/30/96	Eres et al.	118	725	05/26/1994	
DA	A31	5,601,651	02/11/97	Watabe	118	715	12/14/1994	
DA	A32	5,616,181	04/01/97	Yamamoto et al.	118	723 ER	11/21/1995	
DA	A33	5,641,984	06/24/97	Aftergut et al.	257	433	08/19/1994	
DA	A34	5,644,128	07/01/97	Wollnik et al.	250	251	08/25/1994	
DA	A35	5,707,880	01/13/98	Aftergut et al.	437	3	01/17/1997	
DA	A36	5,747,113	05/05/98	Tsai	427	255.5	07/29/1996	
DA	A37	5,749,974	05/12/98	Habuka et al.	118	725	07/13/1995	
DA	A38	5,796,116	08/18/98	Nakata et al.	257	66	07/25/1995	
DA	A39	5,807,792	09/15/98	Ilg et al.	438	758	12/18/1996	
DA	A40	5,830,270	11/03/98	McKee et al.	117	106	08/05/1996	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
DA	B10	00/79576 A1	12/28/2000	WO	H01L	21/205		X
DA	B11	00/79019 A1	12/28/2000	WO	C23C	16/00		X
DA	B12	00/63957 A1	10/26/2000	WO	H01L	21/205		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
DA	C5	George, et al., "Atomic layer controlled deposition of SiO ₂ and Al ₂ O ₃ using ABAB...binary reaction sequence chemistry", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 460-467.						
DA	C6	Wise, et al., "Diethyldiethoxysilane as a new precursor for SiO ₂ growth on silicon", <i>Mat. Res. Soc. Symp. Proc.</i> , Vol. 334 (1994), pp. 37-43.						
Examiner					Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office					Docket No.		Serial No.	
(PTO Form 1449 modified)					AMAT/4714.P1		09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant			
					Xi, et al.			
(Use several sheets if necessary)					Filing Date		Group	
Examiner Unknown					October 03, 2000		10/03/2000	
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
	A41	5,835,677	11/10/98	Li et al.	392	401	10/03/1996	
	A42	5,855,675	01/05/99	Doering et al.	118	719	03/03/1997	
	A43	5,858,102	01/12/99	Tsai	118	719	02/14/1998	
	A44	5,879,459	03/09/99	Gadgil et al.	118	715	08/29/1997	
	A45	5,804,665	05/18/1999	Nguyen, et al.	438	687	07/17/1997	
	A46	5,916,365	06/29/99	Sherman	117	92	08/16/1996	
	A47	5,923,056	07/13/99	Lee et al.	257	192	03/12/1998	
	A48	5,923,985	07/13/99	Aoki et al.	438	301	01/14/1997	
	A49	5,925,574	07/20/99	Aoki et al.	437	31	04/10/1992	
	A50	5,942,040	08/24/99	Kim et al.	118	726	08/27/1997	
	A51	5,947,710	09/07/1999	Cooper, et al.	418	63	06/16/1997	
	A52	5,972,430	10/26/99	DiMeo, Jr. et al.	427	255.32	11/26/1997	
	A53	6,001,669	12/14/99	Gaines et al.	438	102	07/21/1992	
	A54	6,174,377	01/16/2001	Doering, et al.	118	729	01/04/1999	
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B13	00/54320 A1	09/14/2000	WO	H01L	21/44		X
	B14	00/16377 A2	03/23/2000	WO	H01L	---		X
	B15	00/15881 A2	03/23/2000	WO	C30B	---		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
	C7	Niinisto, et al., "Synthesis of oxide thin films and overlayers by atomic layer epitaxy for advanced applications", <i>Mat. Sci. & Eng.</i> , Vol. B41 (1996), pp. 23-29.						
	C8	Ritala, et al., "Perfectly conformal TiN and Al ₂ O ₃ films deposited by atomic layer deposition", <i>Chemical Vapor Deposition</i> , Vol. 5(1) (January 1999), pp. 7-9.						
Examiner					Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.			
(Use several sheets if necessary)				Filing Date October 03, 2000		Group 1762	
Examiner Unknown							
U.S. Patent Documents							
*Examiner Initial	Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
A55	6,174,809	01/16/2001	Kang, et al.	438	682	12/15/1998	
A56	6,203,613	03/20/2001	Gates, et al.	117	104	10/19/1999	
A57	6,207,302	03/27/2001	Sugiura, et al.	428	690	03/02/1998	
A58	6,248,605	06/19/2001	Harkonen, et al.	438	29	06/02/1999	
A59	6,270,572	08/07/2001	Kim, et al.	117	93	08/09/1999	
A60	6,287,965	09/11/2001	Kang, et al.	438	648	02/23/2000	
A61	6,291,876	09/18/2001	Stumborg, et al.	257	632	08/20/1998	
A62	6,305,314	10/23/2001	Sneh, et al.	118	723 R	12/17/1999	
A63	6,306,216	10/23/2001	Kim, et al.	118	725	07/12/2000	
A64	6,316,098	11/13/2001	Yitzchaik, et al.	428	339	03/23/1999	
A65	2001/0000866	05/10/2001	Sneh, et al.	118	723 R	11/29/2000	
A66	2001/0009140	07/26/2001	Bondestam, et al.	118	725	01/25/2001	
A67	2001/0011526	08/09/2001	Doering, et al.	118	729	01/16/2001	
Foreign Patent Documents							
*Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						YES	NO
B16	99/41423 A2	08/19/1999	WO	C23C	---		X
B17	96/18756 A1	06/20/1996	WO	C23C	16/08		X
OTHER ART							
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.					
C9		Min, et al., "Atomic layer deposition of TiN thin films by sequential introduction of Ti precursor and NH/sub3", <i>Symp.: Advanced Interconnects and Contact Materials and Processes for Future Integrated Circuits</i> (Apr. 13-16, 1998), pp. 337-342.					
C10		Klaus, et al., "Atomic Layer Deposition of Tungsten using Sequential Surface Chemistry with a Sacrificial Stripping Reaction," <i>Thin Solid Films</i> 360 (2000), Pages 145 - 153, (Accepted Nov. 16, 1999).					
Examiner				Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.							

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. AMAT/4714.P1		Serial No. 09/678,260		
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Xi, et al.				
(Use several sheets if necessary)				Filing Date October 03, 2000		Group 1762		
Examiner Unknown								
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
<i>[Signature]</i>	A68	2001/0031562	10/18/2001	Raaijmakers, et al.	438	770	02/22/2001	
<i>[Signature]</i>	A69	2001/0034123	10/25/2001	Jeon, et al.	438	643	04/06/2001	
	A70							
	A71							
	A72							
	A73							
	A74							
	A75							
	A76							
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES NO	
<i>[Signature]</i>	B18	96/17107 A1	06/06/1996	WO	C23C	1644		X
<i>[Signature]</i>	B19	93/02111 A1	02/04/1993	WO	C08F	478		X
<i>[Signature]</i>	B20	0 442 490 A1	08/21/1991	EP	C30B	25/02		X
<i>[Signature]</i>	B21	0 344 352 A1	12/06/1989	EP	H01L	39/24		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
<i>[Signature]</i>	C11	Min, et al., "Metal-Organic Atomic-Layer Deposition of Titanium-Silicon-Nitride Films", <i>Applied Physics Letters</i> , American Inst. Of Physics, Vol 75(11) (Sept. 13, 1999).						
<i>[Signature]</i>	C12	Martensson, et al., "Atomic Layer Epitaxy of Copper on Tantalum", <i>Chemical Vapor Deposition</i> , 3(1) (Feb. 1, 1997), pp. 45-50.						
Examiner <i>[Signature]</i>				Date Considered 8/6/02				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group	
Examiner Unknown					 			
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
	A77							
	A78							
	A79							
	A80							
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B22	62-091495 A	04/25/1987	JP	C30B	25/02		X
	B23	60-065712 A	04/15/1985	JP	C01B	33/113		X
	B24	03-048421	03/01/1991	JP	H01L	21/302		X
	B25	03-286531	12/17/1991	JP	H01L	21/316		X
	B26	04-031396 A	02/03/1992	JP	C30B	25/14		X
	B27	06-291048	10/18/1994	JP	H01L	21/205		X
	B28	08-264530	10/11/1996	JP	H01L	21/3205		X
	B29	11-269652	10/05/1999	JP	C23C	16/44		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
	C13	Ritala, et al. "Atomic Layer Epitaxy Growth of TiN Thin Films", <i>J. Electrochem. Soc.</i> , 142(8) (Aug. 1995), pp. 2731-737.						
	C14	Elers, et al., "NbC15 as a precursor in atomic layer epitaxy", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 468-474.						
	C15	Lee, "The Preparation of Titanium-Based Thin Film by CVD Using Titanium Chlorides as Precursors", <i>Chemical Vapor Deposition</i> , 5(2) (Mar. 1999), pp. 69-73.						
	C16	Martensson, et al., "Atomic Layer Epitaxy of Copper, Growth & Selectivity in the Cu (II)-2,2,6,6-Tetramethyl-3, 5-Heptanedion ATE/H2 Process", <i>J. Electrochem. Soc.</i> , 145(8) (Aug. 1998), pp. 2926-2931.						
Examiner					Date Considered 			
*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)					Docket No. AMAT/4714.P1		Serial No. 09/678,266	
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT					Applicant Xi, et al.			
(Use several sheets if necessary)					Filing Date October 03, 2000		Group 1762-6380	
Examiner Unknown					APR 12 2002			
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Name(s)	Class	Subclass	Filing Date If Appropriate	
		A81						
		A82						
		A83						
		A84						
		A85						
		A86						
		A87						
		A88						
Foreign Patent Documents								
*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							YES	NO
	B30	2001-62244	03/13/2001	JP	B01D	53/34		X
	B31	198 20 147	07/01/1999	DE	H01L	21/3205		X
	B32	196 27 017	01/09/1997	DE	H01L	21/283		X
	B33	2 626 110	07/21/1989	FR	H01L	39/24		X
	B34	2 692 597	12/24/1993	FR	C23C	16/00		X
	B35	2 355 727	05/02/2001	GB	C23C	16/44		X
OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
	C17	Min, et al., "Chemical Vapor Deposition of Ti-Si-N Films with Alternating Source Supply", <i>Mat., Res. Soc. Symp. Proc.</i> , Vol. 564 (Apr. 5, 1999), pp. 207-210						
	C18	Bedair, "Atomic layer epitaxy deposition processes", <i>J. Vac. Sci. Technol.</i> 12(1) (Jan/Feb 1994)						
	C19	Yamaga, et al., "Atomic layer epitaxy of ZnS by a new gas supplying system in a low-pressure metalorganic vapor phase epitaxy", <i>J. of Crystal Growth</i> 117 (1992), pp. 152-155						
	C20	Elam, et al., "Nucleation and growth during tungsten atomic layer deposition on SiO2 surfaces," <i>Thin Solid Films</i> 386 (2001) Pages 41 - 52, (Accepted Dec. 14, 2000).						
Examiner					Date Considered			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.